

REMARKS

This communication is in response to the Office Action mailed on September 26, 2003. In the Office Action, claims 1-14 were pending of which claims 11-14 were withdrawn from consideration and claims 1-10 were rejected. Applicants affirm that a provisional election was made with traverse to prosecute claims 1-10. Claims 11-14 have been cancelled in this amendment.

The Office Action reports that claims 1-2, 4-5 and 8-9 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5, 200, 263 to Gould et al. (hereinafter "Gould") The Office Action next reports that claims 1-2 and 8-10 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,035,438 to Neal et al. (hereinafter "Neal") Finally, the Office Action reports that claims 1, 2 and 10 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,810,559 to Fortier et al. (hereinafter "Fortier") It is further noted that the Office Action cites a fourth reference, U.S. patent no. 5,943,694 to Moureaux et al. (hereinafter "Moureaux") in combination with Fortier and Neal against claims 3, 6, and 7 under 35 U.S.C. §103.

Claim 1 is the independent claim on which claims 2-10 depend. Claim 1 has been amended and recites a fabric comprising a fabric substrate and a plurality of guard plate assemblies affixed to a top surface of the fabric substrate in a spaced relationship to each other, each guard plate assembly including a first layer of material affixed to the top surface of the fabric substrate, the first layer of each guard plate assembly collectively providing a plurality of non-overlapping, polygonal guard plates, and a second layer of material joined to the first layer of material on a surface opposite the fabric substrate.[emphasis added]

Applicants submit that Gould discloses a puncture and cut resistant material having a plurality of plates 25 encapsulated

in an elastomeric layer 15. Gould specifically provides,

It is believed that the best flexibility and elasticity of the composite material will be present in those cases wherein the elastomeric material does not adhere well to the platelets 25, i.e., where the platelets 25 are contained within encapsulating pockets in the elastomer to thereby allow the surrounding material to flex and stretch about the platelets 25 without restriction. This is referred to as "decoupling"...[Col. 7, lines 25-32, emphasis added]

Thus, Gould provides a rationale that its structure where plates are encapsulated and de-coupled within an elastomeric material provides a more flexible and elastic material.

In contrast, claim 1 recites a plurality of guard plate assemblies affixed to a top surface of the fabric substrate. Thus, the guard plates assemblies of claim 1 are adhering to the top surface of the substrate, and therefore, are not encapsulated or de-coupled from the substrate as in Gould.

Further, it is respectfully submitted that Gould teaches away from the affixed plate feature of claim 1, in particular, by teaching that encapsulating and de-coupling the plates 25 in the substrate 15 provide greater material flexibility as described above. In contrast to Gould, the present specification provides at least,

Gaps 26 are desired between adjacent guard plate assemblies 14 in order to maintain flexibility of the fabric 10, which allows the fabric 10 to exhibit properties of softness, bendability and twistability." [page 7, lines 20-24, emphasis added]

In light of the foregoing, it is respectfully submitted that claim 1 is patentable over Gould.

Regarding Neal, it is submitted that Neal discloses a method and apparatus for defeating ballistic projectiles, i.e. body armor, having a plurality of overlapping discs or plates 52. Indeed, Neal specifically provides,

It has been found that the majority of threats arrive at a downward trajectory. Thus it is desirable that each row of disks overlap the row below it as the armor is worn. [Col. 3, lines 59-61, emphasis added]

In contrast, claim 1 recites a feature of "non-overlapping, polygonal guard plates". It is further noted that Neal also discloses "discs" rather than "polygonal" guard plates as in claim 1. Finally, it is submitted that Neal teaches away from the non-overlapping plate feature of claim 1 by providing at least,

Because the disks overlap, each disk lies on a slight tilting slope relative to a line normal to the horizontal layout surface. In one embodiment, this slight slope of the disk complements their inclined discus shape to increase the probability of impact deflection. [Col. 3, lines 50-55, emphasis added] [See also Col. 1, lines 60-66]

In light of the foregoing, it is respectfully submitted that claim 1 is patentable over Neal.

Regarding Fortier, it is submitted that Fortier discloses a fabric with wear and abrasion resistant platelets. The Office Action states that Fortier discloses a protective web comprising a piece of fabric with a plurality of small platelets spaced on the fabric. According to the Office Action the first material comprising the platelets can be glue and the second material would be the platelets themselves. Claim 1 includes the feature of "a first layer of material affixed to the top surface of the fabric substrate, the first layer of each guard plate assembly collectively providing a plurality of non-overlapping, polygonal guard plates". Thus, claim 1 has been amended to clarify that the first layer of each guard plate is provides or is structural to the guard plates themselves and is not merely glue used to affix platelets or guard plates to the fabric. Further, it is respectfully submitted that Fortier does not show, teach or suggest a second layer of material joined to the first

layer of material on a surface opposite the fabric substrate as recited in claim 1. In light of the foregoing, it is submitted that claim 1 is patentable over Fortier.

In light of the above discussion of Gould, Neal, and Fortier, it is respectfully submitted that independent claim 1 is patentable over the cited art. Claims 2-10 depend on claim 1 and are believed to be separately patentable. Reconsideration and allowances of claims 1-10 are respectfully requested. It is noted that reference Moureaux is not discussed in detail herein because the body armor of Moureaux does not contain a guard plate structure whatsoever. Rather, Moureaux discloses a multiple layer penetration resistant fabric made with fibers, where the fabric can be shaped or molded, especially for female wearers.

Independent claim 15 is new and recites a fabric comprising a fabric substrate and a single layer of non-overlapping guard plate assemblies affixed to a top surface of the fabric substrate, wherein each guard plate assembly includes a printable first layer of material joined to the top surface of the fabric substrate, and a second layer of material joined to the first layer of material opposite the fabric substrate.

It is believed that claim 15 is properly supported in the application and drawings as originally filed. It is also submitted that claim 15 is patentable over the cited art. For example, Gould and Neal do not apparently disclose non-overlapping guard plate assemblies. Gould also does not disclose a "single layer" of guard plate assemblies but instead apparently discloses multiple layers of guard plates encapsulated in an elastomeric layer as discussed above. Finally, it is submitted that Fortier does not show, teach, or suggest a second layer of material joined to the first layer of material opposite the fabric substrate as recited in claim 15.

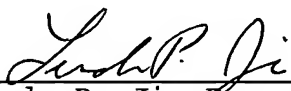
Claims 16 and 17 are new and depend on claim 15. Claim 16 adds that "the printable first layer of material is joined

directly to the top surface of the fabric substrate." Claim 17 adds that "the printable first layer of material comprises epoxy." In light of the foregoing, claim 15-17 are believed to be patentable over the cited art and are presented for favorable action.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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